What is claimed is:

CLAIMS

1. A system for indexing and manipulating a set of backup data stored on a destination system interconnected with a source file system having source data from which the backup data is transmitted to the destination system comprising:

a management application that (a) communicates with the destination system and that accesses data identifiers related to the backup data organized in a tree structure and representing a plurality of persistent consistency point images (PCPIs) of the data, each with associated information related to creation time and (b) organizes the data identifiers into a structure that enables the data to be displayed in a plurality of organizational formats; and

a user interface that allows selective display of the data identifiers so that the backup data can be accessed and manipulated by the user in a desired organizational format.

2. The system as set forth in claim 1 further comprising a database that stores the data identifiers and rules for handling the data identifiers for retrieval by the user interface and the management application.

3. The system as set forth in claim 2 further comprising, in the destination storage system, a network data management protocol (NDMP) extension, communicating with a storage operating system of the destination storage system and providing NDMP-based communication between the management application and the storage operating system.

4. The system as set forth in claim 3 further comprising a job framework that organizes a plurality of backup operations and restore operations by the management application and that communicates with the user interface so as to enable a user to access information with respect to status of the backup operations and restore operations organized by the job framework.

5. The system as set forth in claim 4 further comprising a scheduler that interfaces with the source system and that performs the backup operations, transmitting the backup data from the source system to the destination system at a predetermined time interval.

6. The system as set forth in claim 5 wherein the user interface includes a screen that enables a user to set a desired lag time after which failure to complete a scheduled backup operation caused an event to occur.

7. The system as set forth in claim 1 wherein the desired organizational format includes at least each of (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of directories of the source system, and (c) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides.

8. The system as set forth in claim 7 wherein each of the entries of each listing includes a browse backups button that enables a user to view backup data stored on the destination system that is associated respectively with each of the entries.

9. The system as set forth in claim 1 wherein the desired organizational format includes a listing of backup data entries all having a selected data structure.

10. The system as set forth in claim 9 wherein the data structures include at least one of either a directory or a file.

11. The system as set forth in claim 8 wherein the desired organizational structure includes a listing of backup data entries indexed by a backup date and time.

12. The system as set forth in claim 11 wherein each of the entries of each listing includes a restore button that enables a user to view restorable backup data structures with respect to each of the entries and to restore the backup data structures to the source data.

13. The system as set forth in claim 12 wherein the backup data structures include files and directories.

14. The system as set forth in claim 12 wherein the data structures include qtree relationships with respect to.

15. The system as set forth in claim 14 wherein the user interface includes a command for destroying a qtree relationship between the source data and a selected volume of the backup data in the destination system.

16. The system as set forth in claim 15 wherein the management application is adapted to delete a respective qtree associated with the qtree relationship on the destination system in response to activation of the command for destroying.

17. The system as set forth in claim 1 further comprising, in the user interface, a screen that enables selected of the source data to be listed as entries and to be transmitted as backup data to the destination system at a time separate from a scheduled backup time.

18. A method for indexing and manipulating a set of backup data stored on a destination system interconnected with a source file system having source data from which the backup data is transmitted to the destination system comprising the steps of:

communicating, by a management client, with the destination system and accessing data identifiers related to the backup data organized in a tree structure and representing a plurality of persistent consistency point images (PCPIs) of the data, each with associated information related to creation time and (b) organizing the data identifiers into a structure that enables the data to be displayed in a plurality of organizational formats; and

selectively displaying, on a user interface, the data identifiers so that the backup data can be accessed and manipulated by the user in a desired organizational format.

19. The method as set forth in claim 18 further comprising storing, in a database, the data identifiers and rules for handling the data identifiers for retrieval by the user interface and the management application.

20. The method as set forth in claim 19 further comprising providing, in the destination storage system, a network data management protocol (NDMP) extension, communicating with a storage operating system of the destination storage system and providing NDMP-based communication between the management application and the storage operating system.

21. The method as set forth in claim 20 further comprising organizing, in a job framework, a plurality of backup operations and restore operations by the management application and that communicates with the user interface so as to enable a user to access information with respect to status of the backup operations and restore operations organized by the job framework.

22. The method as set forth in claim 21 further comprising interfacing a scheduler with the source system and performing, at scheduled times, backup operations that transmit the backup data from the source system to the destination system at a predetermined time interval.

23. The method as set forth in claim 22 wherein the user interface includes a screen that enables a user to set a desired lag time after which failure to complete a scheduled backup operation caused an event to occur.

24. The method as set forth in claim 18 wherein the desired organizational format includes at least each of (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of directories of the source system, and (c) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides.

25. The method as set forth in claim 24 wherein each of the entries of each listing includes a browse backups button that enables a user to view backup data stored on the destination system that is associated respectively with each of the entries.

26. The method as set forth in claim 18 wherein the desired organizational format includes a listing of backup data entries all having a selected data structure.

27. The method as set forth in claim 26 wherein the data structures include at least one of either a directory or a file.

28. The method as set forth in claim 25 wherein the desired organizational structure includes a listing of backup data entries indexed by a backup date and time.

29. The method as set forth in claim 28 wherein each of the entries of each listing includes a restore button that enables a user to view restorable backup data structures with respect to each of the entries and to restore the backup data structures to the source data.

30. The method as set forth in claim 29 wherein the backup data structures include files and directories.

31. The method as set forth in claim 30 wherein the data structures include qtree relationships with respect to.

32. The method as set forth in claim 31 wherein further comprising providing, in the user interface, a command for destroying a qtree relationship between the source data and a selected volume of the backup data in the destination system.

33. The method as set forth in claim 15 further comprising, in response to activation of the command for destroying, deleting a respective qtree associated with the qtree rela-

tionship on the destination system in response to activation of the command for destroying.

34. The method as set forth in claim 18 further comprising providing, in the user interface, a screen that enables selected of the source data to be listed as entries and to be transmitted as backup data to the destination system at a time separate from a scheduled backup time.

35. A method for managing backup of data from a source system to a destination system and restore of backup data, relative to source data, from the source system to the destination system comprising the steps of:

communicating, by a management application, with each of the source system and the destination system and transmitting requests to read a data organization residing on each of the source system and the destination system to derive a structure of data identifiers for the data organization each of the source system and the destination system; and

displaying, with a user interface communicating with the management application, selected information related to active data on the source system derived from source system data organization identifiers related to active data and selected information related to backup data on the destination system derived from destination system data identifiers related to persistent consistency point images (PCPIs) transmitted from the source data during backup operations.

36. The method as set forth in claim 35 wherein the data organization comprises a directory and file structure including directory roots.

37. The method as set forth in claim 36 wherein the steps of communicating and transmitting include formatting information into a network data management protocol (NDMP).

38. The method as set forth in claim 36 further comprising activating user interface buttons associated with entries of the displayed selected information to conduct either of a backup operation and a restore operation with respect to the entries.

39. A computer-readable medium including program instructions for managing backup of data from a source system to a destination system and restore of backup data, relative to source data, from the source system to the destination system, the program instructions performing the steps of:

communicating, by a management application, with each of the source system and the destination system and transmitting requests to read a data organization residing on each of the source system and the destination system to derive a structure of data identifiers for the data organization each of the source system and the destination system; and

displaying, with a user interface communicating with the management application, selected information related to active data on the source system derived from source system data organization identifiers related to active data and selected information related to backup data on the destination system derived from destination system data identifiers related to persistent consistency point images (PCPIs) transmitted from the source data during backup operations.

40. The computer-readable medium as set forth in claim 39 wherein the data organization comprises a directory and file structure including directory roots.

41. The computer-readable medium as set forth in claim 39 wherein the steps of communicating and transmitting include formatting information into a network data management protocol (NDMP).